




BOOK OF ABSTRACT



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TABLE OF CONTENTS

Oral presentations

NAME	TITLE	PAGE
ØJVIND MOESTRUP	ECOLOGY AND BIODIVERSITY OF MARINE ALGAE	9
REIJI MASUDA	FISH ASSEMBLAGES RECORDED IN UNDERWATER VISUAL CENSUS: GLOBAL WARMING, THERMAL DISCHARGE FROM A POWER STATION, AND RECOVERY FROM THE TSUNAMI DISASTER, A CASE STUDY IN JAPANESE COASTAL WATER	9
A. CHOUIKHI	POTENTIAL APPLICATIONS OF MARINE SEaweEDS AND THE THERAPEUTIC EFFECTS OF THEIR METABOLITES: A REVIEW	10
ALAA ALBARAKATI	RED SEA COASTAL LAGOONS: THEIR CHANGING ENVIRONMENT AND DYNAMICS	10
BENNY N. PETER	VARIABILITY OF WESTERN BOUNDARY CURRENT IN THE SOUTH CHINA SEA- A REMOTE SENSING PERSPECTIVE	11
ASNOR AZRIN SHABUTI	EXCESS OF ²¹⁰ PO IN THE COASTAL ATMOSPHERE OF SOUTHERN ASEAN REGION	11
NOR ANTONINA A.	SEDIMENTOLOGICAL CHARACTERISTICS AND METALLIC TRACE ELEMENT CONTENTS IN SURFICIAL SEDIMENTS OFF KEMAMAN COAST, TERENGGANU, SOUTH CHINA SEA	12
HASHEM SUEIZI	ASSESSMENT OF CLIMATE CHANGE IMPACTS ON THE CASPIAN SEA IRANIAN COASTAL WETLANDS, BY USING GIS	12
LOKE HAI XIN	CORAL GROWTH OF <i>ACROPORA FORMOSA</i> BETWEEN NATURAL REEF HABITATS AND IN SITU CORAL NURSERIES	13
ZAHRA KHOSHNOOD	BIOLOGICAL AND ECOLOGICAL CHARACTERISTICS OF THE <i>COCHLODINIUM POLIKRICOIDES</i> , THE PERSIAN GULF RED TIDE AGENT	13
NORMAWATY MOHAMMAD NOOR	THE IDENTITY OF COOLIA-TOXIN PRODUCING SPECIES	14
ANNAPURA CHANDARABHOTLA	COMPOSITION AND DISTRIBUTION OF MEIOBENTHOS OFF PUDIMADAKA, EAST COAST OF INDIA	14
RYUICHIRO NISHI	CHANGE IN NUMBER OF LOGGERHEAD TURTLE LANDINGS AT SELECTED SANDY BEACHES IN JAPAN	15
MOHAMAD FUAD MOHAMAD ANUAR	BIOFUEL POTENTIAL WITHIN CHAETOCEROS SPECIES (BACILLARIOPHYCEAE) FROM COASTAL WATER OF PAHANG, MALAYSIA	15
MAHDIEH KARKHANE YOUSEFI	DETERMINATION OF DIFFERENT METHODS OF ALGINATE EXTRACTION FROM PERSIAN GULF'S <i>SARGASSUM POLYCYSTUM</i> ALGAE	16
AKBAR JOHN	SCIENTIFIC EXPLORATIONS ON HORSESHOE CRABS- CURRENT STATUS AND FUTURE PROSPECTS	16
HAMZA-CHAFFAI AMEL	BIOACTIVE MOLECULES FROM SEA ORGANISMS: A NEW HOPE FOR HUMAN HEALTH	17
BINTA ISYAKU USMAN	SEX-RATIO, SEXUAL MATURITY AND SPAWNING OF <i>PLOTOSUS CANIUS</i> (HAMILTON, 1822) IN THE COASTAL WATERS OF PORT DICKSON, PENINSULAR MALAYSIA	17
ZULKIFLI HAMZAH	SPIRULINA PRESENCE IN FISH DIET AFFECTING ORNAMENTAL FISH, TOMATO CLOWNFISH (<i>AMPHIPRION FRENATUS</i>) APPETITE	18
M. K. MOHD AZIM	TEMPORAL AND SPATIAL DISTRIBUTION OF FISH ASSEMBLAGE IN THE MARUDU BAY, SABAH, MALAYSIA	18
AMIRA FARZANA SAMAT	GROWTH, CONDITION FACTOR, MATURITY, GONADAL DEVELOPMENT AND SPAWNING OF FORK-TAIL THREADFIN BREAM (NEMIPTERUS FURSOSUS) IN THE COASTAL WATER OF PAHANG	19
YASSER ABDELHADI	EFFECT OF MICROBIAL INFECTION AND AERATION ON EGG HATCHABILITY OF HORSESHOE CRABS: <i>TACHYPLEUS GIGAS</i> AND <i>CARCINOSCORPIUS ROTUNDAUDA</i>	20
MOHAMED CHOURA	DEPOLLUTION REINFORCEMENT OF TAPARURA NORTHERN	20

CHANGE IN NUMBER OF LOGGERHEAD TURTLE LANDINGS AT SELECTED SANDY BEACHES IN JAPAN

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ABSTRACT-Loggerhead turtle is an endangered marine species. The major landing beaches in Northern Pacific Ocean are concentrated in south part of Japan. Protection activities been conducted since 1950's in Hiwasa beach. It seems that the number of landing, which can apply an estimation of adult turtle number, is increasing, recently, however character of change in the number of landings for several decades is not clarified in detail. This paper describes character of change in loggerhead landing at some major turtle beaches in southern Japan. Then, to see a long term character of landings at different beaches in Japan, landing index is introduced as shown in eq.(1). Then, average landing index AL is calculated as shown in eq.(2), too. $L_i = L_{an,i} / \max(L_{an})$ (1); Where, L_i = Landing index at i^{th} beach, $L_{an,i}$ = number of annual landings at i^{th} beach, and $\max(L_{an})$ = maximum number of annual landings at i^{th} beach. $AL = (1/n) \sum L_i$ (2). This total landing index clearly shows a periodic change of the landings. The maximum peaks can be seen at years of 1961, 1993, and 2005 and minimum peaks are in the years of 1980 and 1998. In addition, the later maximum peak is higher than former peaks. Total landing index AL is compared with other parameters such as the position of Kuroshio, amount of jellyfish, number of typhoons, and etc. Typhoon is not a cause of change in the landings, however the landing numbers of loggerhead turtles and typhoons shows reasonably good correlation ($R=0.66$). This means that much hatching sites and hatched eggs will be affected during high typhoon years if hatched sites (nests) and hatched eggs are not properly protected. It is concluded that site specific protection activities are important, as well as understanding of natural mechanism to cause a periodic change in the landing numbers such as the regime shift in the ocean. In addition, coastal engineers can assist to protect a hatching beach against beach erosion.

BIOFUEL POTENTIAL WITHIN *CHAETOCEROS* SPECIES (BACILLARIOPHYCEAE) FROM COASTAL WATER OF PAHANG, MALAYSIA

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ABSTRACT-Several marine diatoms have been known for their high lipid content. *Chaetoceros* is probably the largest genus of marine planktonic diatoms with approximately 400 species described. Lipid is important as primary storage for nutrient and essential for cell's growth and function. Nowadays, there are increasing in demands for alternative source of fuel with several attempts have been conducted to find the best ways for fatty acid collection and algae have been listed as potential sources for lipid. This study was aimed to analyze the production of fatty acids from marine algae under Genus *Chaetoceros*. The results showed three species had been identified as *Chaetoceros baculites*, *Chaetoceros anastomosans* and *Chaetoceros affinis* var. *willei*. *Chaetoceros baculites* had higher growth rate compared to other species mention earlier. All species had more than 40% of total lipid detected during exponential phase of their growth. Based on accumulation, *Chaetoceros baculites* had higher lipid percentage than other species followed by *Chaetoceros affinis* var. *willei* and lastly *Chaetoceros anastomosans*. This indicates that Genus *Chaetoceros* can be treated as potential sources for bio-fuel industry in Malaysia.